

*Committee*  
*14. IHC*

INTELLIGENCE INFORMATION HANDLING COMMITTEE  
of the  
UNITED STATES INTELLIGENCE BOARD

Office of the Chairman

IHC-MM-10/74

22 May 1974

MEMORANDUM FOR: Intelligence Information Handling Committee (IHC)

SUBJECT : Memorandum for DCI from [ ] on  
New Intelligence Presentation Means

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1. At the IHC meeting on 24 April 74, [ ] offered to share with the Committee his memorandum to the DCI on New Intelligence Presentation Means. That memorandum, dated 1 May 1974, is attached.

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2. Included are the handwritten comments made by the DCI to [ ] on this subject. I think you will be very interested to note the personal attention that Mr. Colby is giving to this subject and his willingness to focus rather specifically on these matters.

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3. I am sure that [ ] will be interested in any comments you may care to offer in connection with his further exploration of this general topic. You may communicate with him direct or through me, as you prefer. This subject will be a matter of continuing interest for the IHC.

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[ ]  
Acting Chairman, IHC

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Att

Distribution:

- 1 - IHC Reps. & Alts.
- 1 - IC Registry ✓
- 1 - IHC Reading
- 1 - IHC-MM File
- 1 - NCF Chrono

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1 May 1974

MEMORANDUM FOR: Director of Central Intelligence

SUBJECT : New Intelligence Presentation Means

This describes the rationale by which I am approaching the subject.

Problem

To discover new approaches to the way in which information media techniques and technology and related ongoing R&D could be employed to extend user and analyst capacity for analyzing, perceiving and understanding intelligence.

Introduction

It has some utility to restate the problem so that through redundancy there is refinement. What I anticipate is that through understanding the relationship among

- 1) the process of organization of concepts, ideas and facts,
- 2) the analytical methods which give new insights to these, and
- 3) the applicability of media techniques and technology,

the Intelligence Community can lessen the impedance

- to the flow of intelligence between analyst and user, and
- to the understanding of the data processor's facts by the analyst.

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These three interact in what I would call a "feasibility equation," which I will describe subsequently. I anticipate that what is being reported here will be a demonstration of the plausibility of the course which is recommended, i. e., the "strategic" view of how to go at solving the "problem." In practice, i. e., "tactically" the problem will be treated by meeting presentation needs in an iterative way on a one-by-one basis -- at least till more sophistication develops regarding "concept transfer" between intellects.

I anticipate also that there will be few, if any, truly unique, optimum solutions to presenting information but that there will be a spectrum of possibilities any one of which might be optimized to the needs of a particular intelligence user or analyst. What ought to develop then if we are successful is

1) some primitive approaches to giving really new insights to structurally non-trivial concepts and to complicated aggregation of facts, and

2) a management approach to satisfying user preferences for gaining those insights when the extant "bag of tricks" is inadequate.

The essence of developing new means of presentation of intelligence lies, I believe, in the skein that must be found between

- the finished intelligence producer's analytical construct or approach to finding the meaning of facts, and

- the media by which his conclusions can be transmitted to the user.

If the producers use conventional approaches, then conventional use of media will result. If, however, his approaches are conditioned

We must also think of varying media for the audience - for easier impact according to tastes -

Excellent point -

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by the full capabilities of available media, then the analytical approach itself will foster the new presentation means. The skein between facts to be analyzed and intelligence to be presented is to be found -- I assert -- in the analytical methodologies which are employed. In fact, depending upon user or analyst preference many analytical methodologies might link a given set of facts and a given medium of presentation.

Yes

Yes

To avoid being unremittingly theoretical, there follows a listing of some

- relevant problems of analysis,
- analytical methodologies, and
- media technical capabilities.

#### Problems of Analysis

Problems of analysis means those kinds of tasks faced in certain offices of CIA, DDI and DDS&T; in DIA, DI and DE; and in State, INR. As other departments of government evolve their understanding of the role which intelligence can play in supporting national interest activities perhaps new tasks or new perspectives of old tasks will develop. Table 1 lists a number of problems, some specific in nature, other general.

All of the problems listed in Table 1 are familiar. All of them suggest or require a quantification of the facts involved. This is a necessity for analytical methodologies any one of which by its nature excludes intuition, i. e., a given set of facts must give rise to results which are invariant as to analyst. One can, of course, change results by changing analytical methods, hypotheses in analyses or in tolerating varying levels of confidence.

- 3 -

There is an interesting philosophical question here; - How do you input genius, innovation and wisdom on a constant basis?

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TABLE 1

Problems of Analysis

1. Indications and warning "thermometer"
2. Weapon systems' measures and portrayal
3. Uncertainty measures and portrayal
4. Military economics analysis
5. Trade-off measures and portrayal
6. Crisis situation analysis
7. Current intelligence (and cable) dissemination
8. Prediction - elections, deployments, etc.
9. Verification (SALT/MBFR) measures of confidence
10. Decision-making process
11. Projection of trends
12. Succession analysis
13. Transaction analysis
14. Multi-parameter data analysis

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*I confess I need a glossary -*

## Analytical Methodologies

Analytical methodologies abound. Table 2 probably only scratches the surface. The table clearly indicates a richness of opportunity for trying new approaches to analysis and therefore perhaps to presentation of results. Some of these methodologies are being employed presently in CIA and DIA, possibly elsewhere in the community. All of these are quantitatively based, most require high-speed computers for practicality, and all have potential for giving new insights to old problems. Some methodologies by their nature will demand new media for meaningful presentation of results, others could permit analysts new, clearer or even differing insights.

## Technique and Technology

In my experience -- and from the research I have done in recent weeks -- technique and technology are the least developed or exploited aspects of the feasibility equation, especially with respect to reducing impedance to concept transfer. So far I have tried to discover the "dimensions" of intelligence presentations as a way both of understanding our current means of presentation and of stimulating new means. The parameters which presently appear adequate are five\*:

- 1) Fixed or changeable content;
- 2) Symbols vs charts (i.e., digital vs analog);
- 3) Dimensionability (e.g., B&W vs color);
- 4) Static (stationary) vs dynamic display; and
- 5) Interactive capability.

\* The number and categorization might change.

*and some (not all) may be false trails*

*Excellent point - Do we face*

*a "two cultures" gap between the*

*Traditional*

*liberal arts analyst and the technology - buff analyst*

*?*

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SOME UNUSUAL "00111" MEANS OF CONVEYING IDEAS

This Appendix is really just a primitive start at a more thorough survey of symbolic, textual and graphical means of conveying ideas. The means are unusual only in the sense that they are not commonly used in Intelligence Community publications. As the illustrations which are used have been borrowed from a large number of sources and are out of context, both of the original source and of possible intelligence context, they suffer somewhat. However, some brief comment is given opposite each as a way of showing some relevance.

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The illustration opposite was produced by cooperation between DDI/OBGI/Cartographic and IC/MPRRG. It is a map of Africa in which dollars expended on intelligence in given countries is displayed in vertical extend above the country. The technique could be applied to any of a number of geographic variables of social, demographic, economic or political activity.

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The illustration opposite is typical of perspective in graphic plots. The logo beneath the illustration explains what is being described here; this presentation means might have utility in trying to show the movement of an entity in which three dimensions are significant. One example of this would be the absolute amount of dollar resources which a given country expends on defense and social programs both plotted as a function of time. One might use the same type of plot for descriptions of resources expended on PHOTINT, SIGINT and HUMINT as a function of time in which hash marks for fiscal years could be employed.

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This illustration opposite is the final example of the use of perspective which might aid in conveying a concept. One might imagine that in some type of operations such a view could be very useful during the preparatory stage.

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*ready*

The illustration opposite describes a way of producing a newspaper at a distance, and in principle is always in use in the intelligence community through LDX.

*(but not for finished  
periodic reports  
like this (eg.  
the NID to  
customers outside  
of Washington?))*

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March 22-2 1971  
IEEE Special Issue

# The Toshiba News

**TOSHIBA**  
...In Touch with Tomorrow  
TOSHIBA ELECTRONIC CO., LTD.

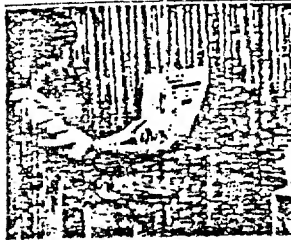


Photo shows newspaper being received on Model AT-2.

## A New Method of Home News Evaluation

To many people, the word "newspaper" connotes an image of newspapers and other printed materials coming out of a TV set Model AT-2, however, the TV set, instead of information source, is used to receive television frequency of 485 MHz. This provides the many functions of present home TV facsimile systems.

Before the war, when the word "newspaper" and "TV" were synonymous, a newspaper was a printed sheet of paper, a few inches wide and a few inches high, containing news, advertisements, and other information. It was a source of information for the home, and it was a source of information for the business world. It was a source of information for the government, and it was a source of information for the public. It was a source of information for the world.

The word "newspaper" is a word that has been used for many years. It is a word that has been used to describe a printed sheet of paper, a few inches wide and a few inches high, containing news, advertisements, and other information. It is a word that has been used to describe a source of information for the home, the business world, the government, and the public. It is a word that has been used to describe a source of information for the world.

Today, the word "newspaper" is still used, but it has taken on a new meaning. It now refers to a printed sheet of paper, a few inches wide and a few inches high, containing news, advertisements, and other information, which is received on a TV set. This is a new method of home news evaluation.

## TELENEWSPAPER AGE DAWNS

### Toshiba Home Facsimile Unit Promises New Era of Instant Communication

Can Be Mass-produced for Every Home

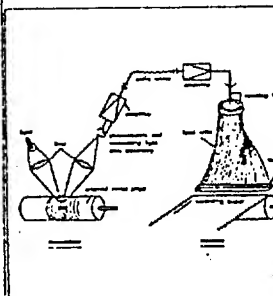
Transmission time and cost are no longer a factor in the new era of instant communication. The Toshiba Home Facsimile Unit, Model AT-2, promises a new era of instant communication. It is a compact, inexpensive unit that can be mass-produced for every home. It is a unit that can be used to receive television frequency of 485 MHz. This provides the many functions of present home TV facsimile systems.

The AT-2 is a compact, inexpensive unit that can be mass-produced for every home. It is a unit that can be used to receive television frequency of 485 MHz. This provides the many functions of present home TV facsimile systems. It is a unit that can be used to receive television frequency of 485 MHz. This provides the many functions of present home TV facsimile systems.

Transmission Speed: Five Minutes Per Page

The AT-2 is a compact, inexpensive unit that can be mass-produced for every home. It is a unit that can be used to receive television frequency of 485 MHz. This provides the many functions of present home TV facsimile systems. It is a unit that can be used to receive television frequency of 485 MHz. This provides the many functions of present home TV facsimile systems.

## The Toshiba System: Compact, Inexpensive



FROM TRANSMITTER TO RECEIVER  
The AT-2 system shows how it is the first step of mass production at a price within the reach of every man.

The AT-2 is a compact, inexpensive unit that can be mass-produced for every home. It is a unit that can be used to receive television frequency of 485 MHz. This provides the many functions of present home TV facsimile systems. It is a unit that can be used to receive television frequency of 485 MHz. This provides the many functions of present home TV facsimile systems.

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The illustration opposite gives a schematic of some of the branch points in arriving at a decision. If, in regard to the DDI/OPR bayesian estimate of conflict possibility, each analyst were to make a decision tree, then after the fact the use of the decision tree could help them to illustrate their understanding of their colleagues' thinking and a subsequent time-series analysis might indicate significant events which changed thought processes.

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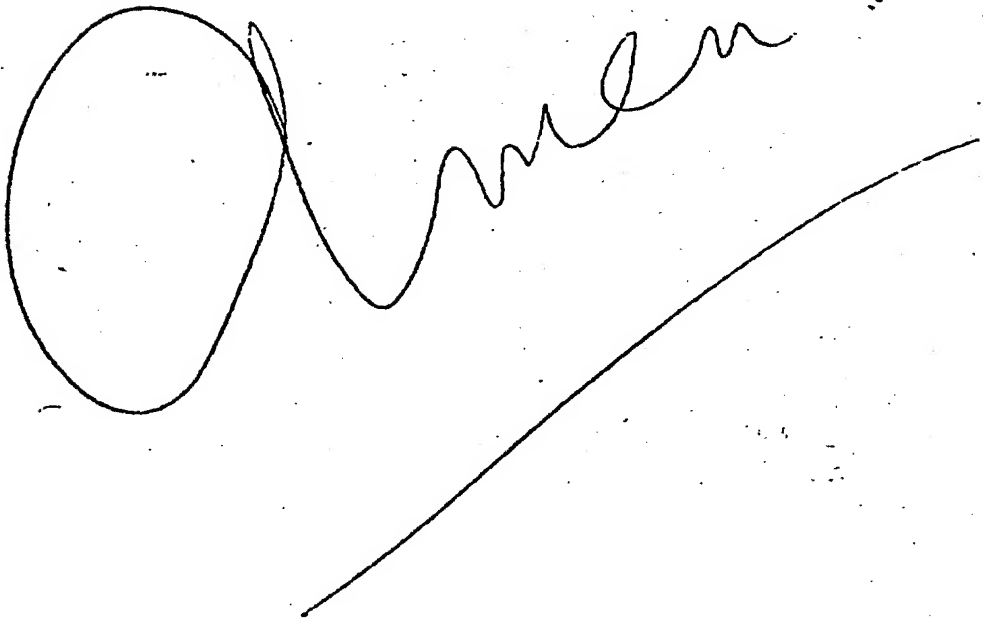
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The illustration opposite makes two points:  
(1) that there are a variety of unusual graph papers which might aid readers in an understanding of statistical data, and (2) that statistical data can be smoothed somewhat as an aid to an understanding of data. The model opposite summarizes a table which had about 80 entries.



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